

Hawley's Condensed Chemical Dictionary

ELEVENTH EDITION

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VAN NOSTRAND REINHOLD COMPANY
New York

al chemistry, drugs, tex-
leats, foam rubbers, vinyl

2. See ammonium bicar-

See ammonium bifluor-

carbonate.

A "post-emergent her-
nissar" 157, a clear solution

ite. See ammonium phos-

ammonium polymannuro-

A hydrophilic, col-

is, grainy, granular or pow-
dery, slightly yellow, and may have
a faint smell and taste. Slowly
forming a viscous solution. In-

100°C.
t and stabilizer in food prod-

e aluminum ammonium sul-

chloride. See aluminum
e.

CAS: 7784-44-3.

crystals or powder efflorescing
ammonia, d 1.99. Soluble in
water in hot water.

carboxylate.
(H_2N)₂($\text{C}_6\text{H}_5(\text{O})\text{COONH}_4$)
mixes with aluminum, chromium,
etc.

sulfonate. (ammonium sul-
)₃NH₄.

100°C (decomposes), d 1.34.
soluble in kerosene.
etc.

ite. $\text{C}_6\text{H}_5\text{COONH}_4$.
crystals or powder. Soluble in
water and glycerol. Decomposes at
160°C.
etc. preservative.

ammonium baborate. See ammonium borate.

ammonium bicarbonate. (ammonium acid car-
bonate; ammonium hydrogen carbonate).

CAS: 1066-33-7. NH_4HCO_3 .

Properties: White crystals. Soluble in water, in-
soluble in alcohol. D 1.586, mp decomposes at
36 to 60°C. Noncombustible.

Derivation: By heating ammonium hydroxide
with an excess of carbon dioxide and evaporating.
Impurities: Ammonium carbonate.

Grade: Technical, CP, FCC.

Hazard: Evolves irritating fumes on heating to
35°C.

Use: Production of ammonium salts, dyes, leaven-
ing agent for cookies, crackers, cream-puff
doughs, fire-extinguishing compounds, pharma-
ceuticals, degreasing textiles, blowing agent for
foam rubber, boiler scale removal, compost treat-
ment.

ammonium bichromate. See ammonium di-
chromate.

✓ ammonium bifluoride. (ammonium acid fluo-
ride; ammonium hydrogen fluoride).

CAS: 1341-49-7. NH_4HF_2 .

Properties: White crystals, deliquescent, d 1.211,
soluble in water and alcohol.

Derivation: Action of ammonium hydroxide on
hydrofluoric acid with subsequent crystalliza-
tion.

Hazard: Corrosive to skin. TLV (as F): 2.5 mg/
m³ of air.

Use: Ceramics, chemical reagent, etching glass
(white acid), sterilizer for brewery, dairy and
other equipment; electroplating processing beryl-
lium, laundry sour.

ammonium binoxalate. (NH_4) $\text{HC}_2\text{O}_4 \cdot \text{H}_2\text{O}$.

Properties: Colorless crystals. Soluble in water.
D 1.556, decomposes on heating.

Derivation: Action of ammonium hydroxide on
oxalic acid with subsequent crystallization.

Use: Analytical reagent, ink removal from fabrics.

ammonium biphosphate. See ammonium phos-
phate, monobasic.

ammonium bisulfate. (acid ammonium sulfate;
ammonium hydrogen sulfate). NH_4HSO_4 .

Properties: Colorless, deliquescent powder; mp
145°C; d 1.79; soluble in water; insoluble in ace-
tone and alcohol.

Use: Catalyst in organic synthesis, hair wave for-
mulation.

ammonium bisulfide. See ammonium sulfide.

ammonium bitartrate. (acid ammonium tartrate).
(NH_4) $\text{HC}_4\text{H}_4\text{O}_6$.

Properties: White crystals; soluble in water, acids,
and alkalis; insoluble in alcohol; d 1.636.

Derivation: By the action of ammonium hydroxide
on tartaric acid.

Use: Baking powder.

ammonium borate. (ammonium baborate).

$\text{NH}_4\text{HB}_4\text{O}_7 \cdot 3\text{H}_2\text{O}$.

Properties: Colorless crystals, efflorescent with
loss of ammonia. Soluble in water. D 2.38-2.95.
Noncombustible.

Derivation: Action of ammonium hydroxide on
boric acid with subsequent crystallization.

Hazard: Evolves irritating fumes especially when
heated.

Use: Fireproofing compounds, electrical condens-
ers, herbicide.

ammonium bromide. NH_4Br .

Properties: Colorless crystals or yellowish white
powder, soluble in water and alcohol, somewhat
hygroscopic. D 2.43, mp sublimates. Noncombusti-
ble.

Derivation: Action of hydrobromic acid on ammo-
nium hydroxide with subsequent crystallization.

Grade: Technical, pure, CP, NF.

Use: Precipitating silver salts for photographic
plates, medicine (for its bromide ion), analytical
chemistry, process engraving, textile finishing,
fire retardant, anticorrosive agents.

ammonium cadmium bromide. See cadmium am-
monium bromide.

ammonium caprylate. (octanoic acid ammonium
salt). $\text{C}_8\text{H}_{19}\text{NO}_2$.

Properties: Hygroscopic crystals, decompose at
room temperature, mp approximately 75°C. Hy-
drolyzes readily. Soluble in alcohol and glacial
acetic acid, partly soluble in acetone, insoluble
in benzene.

Use: Pesticide, photographic emulsions, chemical
intermediate.

ammonium carbamate. $\text{NH}_4\text{CO}_2\text{NH}_2$.

Properties: White, rhombic, crystalline powder;
very volatile; forms urea upon heating; soluble
in water and alcohol. Sublimes at 60°C, decom-
poses in air to evolve ammonia.

Derivation: Interaction of dry ammonia gas and
carbon dioxide from ammonia liquor with am-
monia and ammonium carbonate.

Grade: Technical.

Hazard: Evolves irritating fumes when heated.

Use: Fertilizer.

ammonium carbazotate. See ammonium picrate.

ire, pure fused, CP, NF reagent.
hydrating agent, textile conditioner, reagent,
analytical chemistry, medicine, cacodylic
es, crystal glass, synthetic flavors.

acid carbonate. See potassium bicarbonate.

acid fluoride. See potassium bifluoride.

acid oxalate. See potassium binoxalate.

acid phosphate. See potassium phosphonobasic.

acid saccharate.
CHOH), COOK.

s: Light off-white powder, pH of solution
htly soluble in cold water; soluble in hot
cid, or alkaline solutions. Combustible.
lating agent, rubber formulations, metal
soaps and detergents.

acid sulfate. See potassium bisulfate.

acid sulfate, anhydrous. See potassium
ate.

acid sulfite. See potassium bisulfite.

acid tartrate. See potassium bitartrate.

alginate. (potassium polymannuro,
($C_6H_7O_6K$)_n). Hydrophilic colloid
a molecular weight of 32,000–250,000.
s: Occurs in filamentous, grainy, granu-
powdered forms. It is colorless or slightly
e. Slowly soluble in water forming a vis-
lution; insoluble in alcohol.
technical, FCC.

thickening agent and stabilizer in dairy prod-
ucts, canned fruits, and sausage casings; emulsi-

alginic acid.

alum. See aluminum potassium sulfate.

aluminate. CAS: 12003-63-3.
)₄·3HOH.

s: Hard crystals, lustrous, soluble in water,
hydrolysis to form strongly alkaline solu-
tion; soluble in alcohol.

on: By fusing potassium hydroxide with
alum oxide.
technical.

ing, printing (mordant); lakes, paper

aluminosilicate. See feldspar.

potassium aluminum fluoride. K_3AlF_6 .
Properties: White powder, slightly soluble in wa-
ter.

Derivation: Aluminum fluoride, ammonium fluo-
ride, and potassium chloride.

Hazard: Toxic by ingestion and inhalation, strong
irritant. TLV (as fluorine): 2.5 mg/m³ of air.

Use: Insecticide.

potassium aluminum sulfate. See aluminum po-
tassium sulfate.

potassium-p-aminobenzoate. CAS: 138-84-1.
 $C_7H_6KNO_2$.

Properties: Colorless crystals, soluble in water,
partially soluble in alcohol, insoluble in ether.
Use: Condensation catalyst, mainly for polyglycol
ether polymers.

potassium antimonyl tartrate. See antimony po-
tassium tartrate.

potassium argentocyanide. See silver potassium
cyanide.

potassium arsenate. (Macquer's salt).
CAS: 7784-41-0. KH_2AsO_4 .

Properties: Colorless crystals, d 2.867, mp 288C,
soluble in water, insoluble in alcohol.

Hazard: Toxic by ingestion and inhalation, strong
irritant.

Use: Manufacture of fly paper, insecticidal prepa-
rations, preserving hides, printing textiles.

potassium arsenite. (potassium metaarsenite).
CAS: 10124-50-2. $KH(AsO_2)_2 \cdot HOH$.

Properties: White powder, hygroscopic, decom-
poses slowly in air, variable composition, keep
well stoppered, soluble in water, slightly soluble
in alcohol.

Grade: Technical, reagent.

Hazard: Toxic by ingestion and inhalation, strong
irritant.

Use: Reducing agent in silvering mirrors.

potassium aurate. $KAuO_2 \cdot 3HOH$.

Properties: Yellow crystals, soluble in water and
alcohol.

Derivation: Gold oxide dissolved in potassium hy-
droxide solution.

Use: To prepare other gold compounds.

potassium beryllium fluoride. See beryllium po-
tassium fluoride.

potassium bicarbonate. (potassium acid carbon-
ate, baking soda). CAS: 298-24-6.
 $NHCO_3$.

Properties: Colorless, odorless, transparent crys-
tals or white powder; slightly alkaline, salty taste.

Soluble in water and potassium carbonate solu-
tion, insoluble in alcohol, d 2.17, mp decomposes
between 100 and 120C, refr index 1.482.

Derivation: By passing carbon dioxide into a solu-
tion of potassium carbonate in water.

Grade: Commercial, highest purity, USP, reagent,
FCC.

Use: Baking powders, soft drinks, medicine (ant-
acid), manufacture of pure potassium carbonate,
fire-extinguishing agent, low pH liquid deter-
gents, laboratory reagent, food additive.

potassium bichromate. See potassium dichro-
mate.

potassium bifluoride. (potassium acid fluoride;
potassium hydrogen fluoride).
CAS: 7789-29-9. KHF_2 .

Properties: Colorless crystals, decomposed by
heat, soluble in alcohol (dilute) and water, insolu-
ble in alcohol (absolute), d 2.37, mp 238C.

Grade: Technical.

Hazard: Corrosive to tissue. TLV (as F): 2.5 mg/
m³ of air.

Use: Etching glass, flux in silver solders, alkylation
catalyst, electrolyte in fluorine production.

potassium binoxalate. (potassium acid oxalate;
acid potassium oxalate; sorrel salt).

CAS: 127-95-7. $KHC_2O_4 \cdot 1/2HOH$.

Properties: White crystals; bitter, sharp taste;
somewhat hygroscopic. Soluble in water, insolu-
ble in alcohol, density of the anhydrous salt
2.088, decomposes when heated.

Derivation: Neutral potassium oxalate and oxalic
acid are dissolved in water and crystallized.

Hazard: Toxic by ingestion.

Use: Removing ink stains, scouring metals, clean-
ing wood, photography, laboratory reagent, mor-
dant.

potassium biphthalate. See potassium hydrogen
phthalate.

potassium bisulfate. (acid potassium sulfate; po-
tassium hydrogen sulfate; potassium acid sul-
fate). CAS: 7646-93-7. $KHSO_4$.

Properties: Colorless crystals, the fused salt is deli-
quescent, soluble in water yielding a solution
with acid reaction, decomposes in alcohol, d
2.245, mp 195 (decomposes).

Derivation: Heating potassium sulfate with sul-
furic acid.

Use: Conversion of wine lees and tartrates into
potassium bitartrate, flux, manufacture of mixed
fertilizers, methyl acetate, ethyl acetate, lab reagent.

potassium bisulfide. See potassium hydrosulfide.